

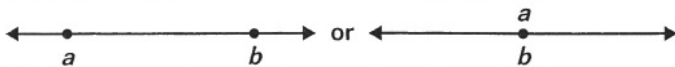
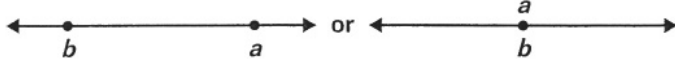


# LESSON 20 Inequalities

$$h \geq 48$$

This statement is an *inequality*. It uses symbols to state that a certain number is *greater than or equal to* 48.

An **inequality** is a number sentence that contains  $<$ ,  $>$ ,  $\leq$ , or  $\geq$ .

Symbol	What it means	How it looks on a number line	What the number line shows
$a < b$	$a$ is less than $b$		$a$ is to the left of $b$
$a > b$	$a$ is greater than $b$		$a$ is to the right of $b$
$a \leq b$	$a$ is less than or equal to $b$		$a$ is to the left of or equal to $b$
$a \geq b$	$a$ is greater than or equal to $b$		$a$ is to the right of or equal to $b$

You can use inequalities to express real-life situations.

## Example

The price of a movie ticket is *more than* \$6. Write this information as an inequality.

**STEP 1** Pick a variable to stand for the unknown number.

Let  $p$  stand for the unknown price of a ticket.

The words *more than* tell you that the price is *greater than* \$6. Therefore you will use the  $>$  symbol in your inequality.

**STEP 2** Write the inequality using the variable.

$$p > 6$$

## ON YOUR OWN

Snacks at the movie theater cost at least \$4.

# Practice

## Building Skills

Write an inequality for each word sentence.

1. 4 is more than  $y$ .
2. 5 is less than  $w$ .
3.  $m - 1.5$  is greater than 12.
4. 4.2 is less than  $m$ .
5. 0.7 is no greater than  $r$ .
6.  $x$  divided by 3 is at least as great as 7.

Write a word sentence for each inequality.

7.  $4 > b$
8.  $m \leq -3$
9.  $n + 4 \geq 0$
10.  $\frac{n}{10} > 14$

## Problem Solving

Write an inequality to describe each situation.

11. The temperature dropped at least 5 degrees in the last hour.
12. The puppy has gained at least 8 pounds since the spring.
13. The mark-up at a clothing store is at least 20%.
14. Prices are above \$200.
15. Customers pay no more than \$9.95 for anything at the discount store.
16. Including \$28 in tips, you will earn at least \$100 for your afternoon's work.